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## SECTION III—REMARKS

This amendment is submitted in response to the Office Action mailed February 7, 2006. Claims 1, 2, 5, and 27 are amended herein. Claim 4 has been canceled and claims 19-22 are withdrawn. Claims 1-3, 5-8 and 27-29 remain pending in the application. Applicant respectfully requests reconsideration of the application and allowance of all pending claims in view of the above amendments and the following remarks.

### Rejections Under 35 U.S.C. § 102

The Examiner rejected claims 1-6 and 27-29 as anticipated under 35 U.S.C. § 102(e) by U.S. Patent No. 6,668,000 to Choa ("Choa").

Applicant respectfully traverses the Examiner's rejections. A claim is anticipated only if each and every element, as set forth in the claim, is found in a single prior art reference. MPEP § 2131; *Verdegaal Bros. v. Union Oil of California*, 2 U.S.P.Q.2d 1151, 1053 (Fed. Cir. 1987). As explained below, Choa and Lo cannot anticipate the claims they were used to reject because they do not disclose every element and limitation recited therein.

Claim 1, as amended, recites a method combination including forming a light-emitting device on a wafer, wherein the device emits light substantially parallel to the plane of the wafer through one or both of a front facet and a back facet and "removably optically coupling a test structure to one or both of the front facet and the back facet." The test structure comprises a first region, a second region, and an interface defined between the two regions, wherein the interface can "direct the light beam emitted from the front facet or the back facet in a direction different from an original direction of the emitted light beam." Choa does not disclose a combination including the recited limitations. Choa, in

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Figure 4, discloses a laser 300 including an active region 310 with a front facet 320 and a rear facet 330. The laser 300 also includes a scattering trench 340 formed in a layer above the active region 310. *Choa* does not disclose, teach or suggest that the scattering trench 340 is or should be optically coupled to one or both of the front facet 320 and the back facet 330.

The Examiner, in rejecting claim 4, alleges that *Choa* discloses coupling the test structure to a back facet of the device. Applicant respectfully disagrees and cannot locate where in *Choa* such a disclosure is made. Applicant notes that in column 3, lines 1-24 *Choa* states that "the grating structure 30 can be positioned at any position that will allow it to provide optical feedback and re-direct the portion 55 of the guided edge emitted component 60 in a direction that will allow the portion 55 to be measured..." Accepting, purely for the sake of argument, that such a statement discloses coupling a test structure to a front or back facet of the device, *Choa* would still fail to anticipate claim 1 of the present invention. Why? Because this statement applies only to a grating structure 30 that is not the same as the presently recited test structure, and because grating structure 30 in *Choa* is positioned to re-direct surface-emitted light ("a portion 55 of the guided edge emitted component 60") rather than "the light beam emitted from the front facet or the back facet," as in the present invention.

Accordingly, *Choa* cannot disclose, teach or suggest the recited method combination, which includes optically coupling a test structure to the device to allow the interface to "direct the light beam emitted from the front facet or the back facet in a direction different from an original direction of the emitted light beam." Applicant

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therefore submits that Choa cannot anticipate claim 1 and respectfully requests withdrawal of the rejection and allowance of the claim.

Regarding claims 2-3, and 5-8, if an independent claim is allowable, then any claim depending therefrom is also allowable. *See generally* MPEP § 2143.03; *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988). Claims 2 and 5 have been amended for minor editorial problems or consistency with independent claim 1. As discussed above, claim 1 is in condition for allowance. Applicant respectfully submits that claims 2-3 and 5-8 are therefore allowable by virtue of their dependence on an allowable independent claim, as well as by virtue of the features recited therein. Applicant therefore respectfully requests withdrawal of the rejections and allowance of these claims.

Claim 27, as amended, recites a method combination including emitting a light beam from a front facet or a back facet of a device formed on a wafer, the light beam being emitted in a direction substantially parallel to the plane of the wafer and "directing the light beam in a direction different from an original direction via use of a test structure included on the wafer and removably optically coupled to the front facet or back facet of the device." By analogy to the discussion above in connection with claim 1, Applicant submits that Choa cannot anticipate the claim because the reference does not disclose, teach or suggest the recited method combination, which includes emitting a light beam from a front facet or a back facet of a device formed on a wafer, the light beam being emitted in a direction substantially parallel to the plane of the wafer, and directing the light beam in a direction different from an original direction via use of a test structure included on the wafer and "removably optically coupled to the front facet or back facet of the

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device." Applicant submits that Choa cannot anticipate claim 27 and respectfully requests withdrawal of the rejection and allowance of the claim.

Regarding claims 28-29, if an independent claim is allowable, then any claim depending therefrom is also allowable. *See generally* MPEP § 2143.03; *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988). As discussed above, claim 27 is in condition for allowance. Applicant respectfully submits that claims 28-29 are therefore allowable by virtue of their dependence on an allowable independent claim, as well as by virtue of the features recited therein. Applicant therefore respectfully requests withdrawal of the rejections and allowance of these claims.

Rejections Under 35 U.S.C. § 103

The Examiner rejected claims 1-8 and 27-29 under 35 U.S.C. § 103(a) as obvious in view of, and therefore unpatentable over, different combinations of *Choa* and U.S. Patent No. 6,459, 716 to Lo et al. ("*Lo*"). In particular, the Examiner rejected claims 1-6 and 27-29 as unpatentable over *Choa* and rejected claims 7-8 as unpatentable over *Choa* in view of *Lo*.

Applicant respectfully traverses the Examiner's rejections. To establish a *prima facie* case of obviousness, three criteria must be met: (1) the prior art references must teach or suggest all the claim limitations; (2) some suggestion or motivation to combine the references must be found in the prior art; and (3) there must be a reasonable expectation of success. MPEP § 2143. As explained below, Applicant respectfully submits that the Examiner has not established a *prima facie* case of obviousness.

Claim 1, as amended, recites a method combination including forming a light-emitting device on a wafer, wherein the device emits light substantially parallel to the

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plane of the wafer through one or both of a front facet and a back facet and "removably optically coupling a test structure to one or both of the front facet and the back facet." The test structure comprises a first region, a second region, and an interface defined between the two regions, wherein the interface can "direct the light beam emitted from the front facet or the back facet in a direction different from an original direction of the emitted light beam." As discussed above, *Choa* does not disclose every element and limitation recited in the claim and therefore, on that basis alone, cannot obviate the claim.

Not only does *Choa* not disclose every element and limitation of the claim, but *Choa* also teaches against a modification that would allow it to perform the recited process steps. Scattering trench 340 is designed to redirect surface-emitted light from the top of the active area 310 rather than "the light beam emitted from the front facet or the back facet," as in the present invention. In fact, *Choa* is designed to not significantly affect "the edge-emitted component 350" emitted from front facet 320 (col. 4, lines 64-66), whereas the present invention directs and detects such a component. *Choa* therefore teaches against positioning the test structure as recited in the present claim. Furthermore, *Choa* teaches against the removability of scattering trench 340. *Choa* discloses that scattering trench 340 is "designed so that the surface-emitted component is strong enough to be detected, without significantly affecting the edge-emitted component 350," (col. 4, lines 64-66). The whole purpose of minimizing the effect of the scattering trench 340 on the edge-emitted component 350 is to enable laser 300 to operate with scattering trench 340 in place, so that the additional processing steps and expense associated with removing scattering trench 340 can be avoided. For the above reasons, Applicant submits that claim

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1 is not obviated by *Choa* and respectfully requests withdrawal of the rejection and allowance of the claim.

Claim 27, as amended, recites a method combination including emitting a light beam from a front facet or a back facet of a device formed on a wafer, the light beam being emitted in a direction substantially parallel to the plane of the wafer and "directing the light beam in a direction different from an original direction via use of a test structure included on the wafer and removably optically coupled to the front facet or back facet of the device." By analogy to the discussion above for claim 1, Applicant respectfully submits that *Choa* cannot obviate the claim because it does not disclose every element and limitation of the claim and teaches away from the modification suggested by the Examiner. Applicant submits that claim 27 is therefore in condition for allowance and respectfully requests withdrawal of the rejection and allowance of the claim.

Regarding claims 2-8 and 28-29, if an independent claim is non-obvious under 35 U.S.C. § 103, then any claim depending therefrom is also non-obvious. MPEP § 214.03; *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988). As discussed above, claims 1 and 27 are in condition for allowance. Applicant respectfully submits that claims 2-8 and 28-29 are therefore allowable by virtue of their dependence on allowable independent claims, as well as by virtue of the features recited therein. Applicant respectfully requests withdrawal of the rejections and allowance of these claims.

### Conclusion

Given the above amendments and accompanying remarks, all claims pending in the application are in condition for allowance. If the undersigned attorney has overlooked a teaching in any of the cited references that is relevant to allowance of the claims, the

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Examiner is requested to specifically point out where such teaching may be found. Further, if there are any informalities or questions that can be addressed via telephone the Examiner is encouraged to contact the undersigned attorney at (206) 292-8600.

**Charge Deposit Account**

Please charge our Deposit Account No. 02-2666 for any additional fee(s) that may be due in this matter, and please credit the same deposit account for any overpayment.

Respectfully submitted,

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Date: 4-7-06

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Enclosures: Amendment transmittal, in duplicate